REMARKS

Petition for Extension of Time Under 37 CFR 1.136(a)

It is hereby requested that the term to respond to the Examiner's Action of May 28, 2008 be extended three months, from August 28, 2008 to November 28, 2008.

The Commissioner is hereby authorized to charge the extension fee and any additional fees associated with this communication to Deposit Account No. 50-4364.

In the Office Action, the Examiner indicated that claims 1 through 12 are pending in the application and the Examiner rejected all of the claims. Claims 1, 2, 5, 7, 9, and 12 have been amended. Support for the amendments to the independent claims (claims 1 and 12) may be found in claim 7 of the original claims of the international application, and examples of this feature can be found in the description at p. 5, ll. 8-13, and p. 10, ll. 20-25.

Rejections under 35 U.S.C. § 103

On page 4 of the Office Action, the Examiner rejected claims 1, 4, 9 and 12 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,868,480 to Nakajima in view of U.S. Patent No. 6,760,065 to Whitcher. On page 10 of the Office Action, the Examiner rejected claims 2, 3, 5, 10 and 11 under 35 U.S.C. §103(a) as being unpatentable over Nakajima and further in view of U.S. Patent No. 6,985,912 to Mullins and Whitcher. On page 15 of the Office Action, the Examiner rejected claims 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over Nakajima and further in view of U.S. Patent No. 6,519,612 to Howard et al. and Whitcher. On

page 16 of the Office Action, the Examiner rejected claim8 under 35 U.S.C. §103(a) as being unpatentable over Nakajima and further in view of Howard, Whitcher, and Mullins et al.

The Examiner Has Not Established a *Prima Facie* Case of Obviousness

KSR (*KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 82 USPQ2d 1385 (2007) requires that an Examiner provide "some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness." Further, an Examiner must "identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does," In addition, the Examiner must make "explicit" this rationale of "the apparent reason to combine the known elements in the fashion claimed," including a detailed explanation of "the effects of demands known to the design community or present in the marketplace" and "the background knowledge possessed by a person having ordinary skill in the art."

The Examiner has not met these requirements.

The present application arose from a problem that was noticed when the Applicant attempted to use removable storage media conforming to Sony's Memory Stick standard with the Symbian OS operating system. The Memory Stick standard strictly limits the directory hierarchy that can be used on a conforming drive, restricting the names of the directories that are allowed to appear in the drive's root directory. The Symbian OS also specifies a particular directory hierarchy to be used, requiring directories having certain particular names to be present in the drive's root. The hierarchy specified by Symbian OS and the hierarchy specified for Memory Stick media were not compatible and, at least prior to the present invention, could not function

together. As a result, it was not possible to use Memory Stick media with Symbian OS. This lack of interoperability is highly undesirable as it limits the media that can be used with Symbian OS devices. This is discussed in greater detail in the section of the application entitled *Description of the Prior Art.*

The specific example of Symbian OS and Memory Stick is representative of a more general problem – that of enabling software running on a device to operate properly with a storage medium when the directory structure expected/required by the software and that present/permitted on the medium are incompatible with one another. The problem in such circumstances is that such software and medium cannot normally be used with one another – principally because the software is unable to access data stored according to the medium's directory hierarchy, and the medium is corrupted should data be written to it using the software's directory hierarchy. In such circumstances it was necessary either to modify the storage medium standard, or the software; neither option being a realistic solution.

There therefore existed a great need to provide some way of providing interoperability between incompatible software and storage medium directory hierarchies. Further, since it is desirable to minimize the consumption of time, power and hardware resources, it was desirable to assure that the interoperability be provided as efficiently as possible.

The section entitled Mapping Without String Concatenation of Manipulation on pages 9 and 10 of the present application discusses replacing path strings to perform mappings, but rejects this approach as being too inefficient.

The inefficiencies associated with string replacement arise as a result of two separate reasons. The first is that the act of changing a path string takes time and consumes system

resources. The second is that when a path string is amended in such a way that it points to a location that is deeper within a directory hierarchy (i.e. has more directories between the target and the root directory), there will be extra levels of directories that must be navigated before the target of the path can be found (this relates to the action of looking-up, or searching for each element of the path in the directory hierarchy.

The above problems are discussed explicitly in the present application. P.10, ll.20-21 refers to the path string modification approach and states: "the string manipulation and the initial search in the root [directory] are wasted effort and time".

To improve efficiency when enabling interoperability between software and storage media having incompatible directory hierarchies, the present application recognises that when adapting one directory hierarchy to another, it is not necessary to actually modify the paths relating to elements in the directory structures. Instead, the mapping can be performed by maintaining the path strings as they are and instead changing the point in the directory hierarchies where the file system begins searching for the element.

Consider the directory structure shown on page 10 of the application as filed. Here, the file "info.doc" is stored on a Memory Stick at the path "\MSSymbian\Documents\info.doc" in the Memory Stick hierarchy. Symbian OS is not compatible with this hierarchy and expects the file to be located at "\Documents\info.doc". Starting from the root of the memory stick, Symbian OS would therefore be unable to locate this file, since the directory "Documents" is not located at this level in the Memory Stick hierarchy. When using a mere path string replacement technique, it would be necessary first to modify the Symbian OS-originating path "\Documents\info.doc" to "\MSSymbian\Documents\info.doc", then to search the root directory first for "MSSymbian",

then to search "MSSymbian" for "Documents", and then finally to search "Documents" for "info.doc".

It is possible to avoid both the overhead associated with modifying the path string and also that associated with searching the root directory if, instead of using a translation driver, it was recognized that the search for the Symbian OS path can instead be 'injected' part way into the Memory Stick path; this requires the search to begin in the "MSSymbian" directory and then search for the original "\Documents\info.doc" path – eliminating the need both to modify the path string and to search the root directory of the Memory Stick. This optimization is possible because the translation performed by the present invention is a translation between hierarchies within the file system, and it is possible to convert one hierarchy to the other using a 'root offset', in this case "\MSSymbian". This approach is described as a high-efficiency alternative to path string modification on p. 5, ll. 8-11, and p.9, l.10 to p.10, l.25.

In absolute terms, the savings in time and system resources for a single file access as a result of using the offset searching technique of the present invention may be relatively small. However, over many accesses this approach will represent a significant improvement in system efficiency, as many such savings accumulate. It will therefore be appreciated that when an application running on an operating system with a first directory hierarchy is enabled to access files stored on a removable storage medium that uses a second directory hierarchy that is incompatible with the first, the efficiency of the resulting operation is improved by starting the search for a file not from the root directory, but instead from another location. This represents a significant improvement over the prior art method of replacement of the path string and therefore performing the search for the path it represents by starting from the root directory.

It is exactly the above, advantageous, behavior that the amended claims provide – i.e. starting the search from a location that is not only different from the original start location, but is also a *non-root* location.

The Applicant respectfully maintains the arguments in respect of Nakajima that were presented in the response filed 21st February 2008, particularly in view of the now-amended claims. In response to these arguments, the Examiner has alleged that Nakajima teaches a host computing device that accesses a removable medium by sending a file request that conforms to a first directory hierarchy, where this request is then mapped to locations of the removable medium by the file system and both the request and the results of the mapping are forwarded to the device driver of the removable medium device to in some way convert a request in a first directory hierarchy to a second. However, the referenced passages in Nakajima do not appear to disclose this functionality. Indeed, there is no suggestion anywhere in Nakajima that first and second incompatible hierarchies exist between the original access described in col.4, ll.3-5, and the actual location of the sought content on the medium (col.6, l.67 to col.7, l.5). To the contrary, it appears from third and fifth paragraphs of col.5, that the original access request may take the form of a URL pointing to actual data stored on the medium (there is no suggestion that the path used in the URL is different to the actual path used on the medium and it is normal in the art that these should be the same), or that the request may instead refer to active content. In the latter case the location on the medium is virtual in the sense that the content itself does not exist on the medium. Instead, active content is generated dynamically by the application local to the medium – it is not the case that this content is stored somewhere on the medium but with a different directory hierarchy.

Supporting applicant's position that Nakajima fails to disclose the presence of incompatible hierarchies is the fact that it addresses a completely different problem to that addressed in the present application. Nakajima aims to create a barrier between the medium and the host computer by generating active content on the medium and concealing the fact that this content is not actually stored on the medium from the host. The present application is instead concerned with the situation where the content is actually stored on a removable medium, but that the operating system cannot access the content because it uses an incompatible directory hierarchy.

Nakajima certainly does not disclose changing the start location of a search for a file to a non-root location. Indeed, since it does not even mention the potential for incompatible directory hierarchies between the host and removable media, it is impossible to see how the skilled practitioner would ever seek to adapt Nakajima to overcome such an incompatibility in such an optimal manner.

Consequently Nakajima nowhere teaches claim 1's new limitation of "starting a path lookup at a non-root directory on the second directory hierarchy rather than modifying a string representing the original path", or the corresponding new limitation in claim 12.

Turning to Whitcher, the Applicant notes that this document is concerned with the "presentation" of pathnames to a user, and nowhere teaches allowing a file request to actually use alternative pathnames. In order to achieve the desired presentation, Whitcher refers to storing "presentation pathnames", which are associated with actual (i.e. "restrictive") paths. Actual file accesses are performed using the actual file path, and it is only when the path is presented to the user that it is substituted for its associated presentation pathname. The actual and presentation

pathnames are stored as strings in a table of contents, in order that a presentation pathname can easily be substituted for an actual pathname when it is to be displayed. To the extent that Whitcher enables any interoperability between different path naming conventions, this would evidently only ever be achieved using string substitution during presentation. A skilled practitioner would not find any teaching or suggestion in either reference that would reasonably motivate them to combine the references to achieve the claimed invention.

Even if the skilled practitioner would find it obvious to combine the teachings of Nakajima and Whitcher (and the Applicant respectfully submits that he/she would not), doing so would not arrive at the subject matter of the amended claims. Neither Nakajima not Whitcher addresses the problem of enabling interoperability between an operating system having a first directory hierarchy and a removable medium having a second and incompatible directory hierarchy. What is more, neither document discloses changing the location in a hierarchy from which a search for a file begins, rather than using string substitution – which is far less efficient.

In view of the foregoing, it is respectfully submitted that no combination of the cited prior art teaches all of the features of the amended independent claim. As such, it is respectfully submitted that this application is in order for allowance.

In view of the above, it is submitted that the present claims, as amended, patentably define over the prior art. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection of the claims under 35 USC §103.

Conclusion

The present invention is not taught or suggested by the prior art. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection of the claims. An early Notice of Allowance is earnestly solicited.

The Commissioner is hereby authorized to charge the extension fee and any additional fees associated with this communication to applicant's Deposit Account No. 50-4364.

Respectfully submitted

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Date

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